

6BQ5

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POWER PENTODE
9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.76	amp

Direct Interelectrode Capacitances:°

Grid No.1 to plate	0.5 max.	$\mu\mu f$
Grid No.1 to cathode & grid No.3, grid No.2, and heater	10.8	$\mu\mu f$
Plate to cathode & grid No.3, grid No.2, and heater	6.5	$\mu\mu f$

Characteristics, Class A_1 Amplifier:

Plate Voltage	250	volts
Grid-No.2 (Screen-grid) Voltage	250	volts
Grid-No.1 (Control-grid) Voltage	-7.3	volts
Plate Resistance (Approx.)	38000	ohms
Transconductance	11300	μmhos
Plate Current	48	ma
Grid-No.2 Current	5.5	ma

Mechanical:

Operating Position	Any
Maximum Overall Length	3-1/16"
Maximum Seated Length	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	*See General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9CV

Pin 1 - Internal Connection— Do Not Use
Pin 2 - Grid No.1
Pin 3 - Cathode, Grid No.3
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Same as Pin 1
Pin 7 - Plate
Pin 8 - Same as Pin 1
Pin 9 - Grid No.2

AMPLIFIER — Class A_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	300	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	300	max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0	max.	volts
CATHODE CURRENT	65	max.	ma
PLATE DISSIPATION	12	max.	watts
GRID-No.2 INPUT•	2	max.	watts

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PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	100	max.	volts
Heater positive with respect to cathode.	100▲	max.	volts

Typical Operation:

Plate Voltage.	250	volts
Grid-No.2 Voltage.	250	volts
Grid-No.1 Voltage.	-7.3	volts
Peak AF Grid-No.1 Voltage.	6.2	volts
Zero-Signal Plate Current.	48	ma
Max.-Signal Plate Current.	50.6	ma
Zero-Signal Grid-No.2 Current.	5.5	ma
Max.-Signal Grid-No.2 Current.	10	ma
Effective Load Resistance.	4500	ohms
Total Harmonic Distortion.	10	%
Max.-Signal Power Output	5.7	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.3	max.	megohm
For cathode-bias operation	1	max.	megohm

○ Without external shield.
● Grid-No.2 input must not exceed 4 watts under maximum-signal conditions.
▲ The dc component must not exceed 100 volts.

OPERATING CONSIDERATIONS

The *bulb* becomes hot during operation. To insure adequate cooling, therefore, it is essential that free circulation of air be provided.



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AVERAGE CHARACTERISTICS

E_f = 6.3 VOLTS
GRID-№2 VOLTS = 250

GRID-№1 VOLTS E_{c1} = 0, -2, -4, -6, E_{c1} = -8, -10

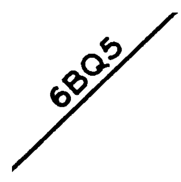
I_b, I_{c2}: E_{c1} = 0, -5, -10

PLATE VOLTS: 0, 50, 100, 150, 200, 250, 300

PLATE (I_b) OR GRID-№2 (I_{c2}) MILLIAMPERES: 0, 50, 100, 150, 200

ELECTRON TUBE DIVISION 92CM-9903

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY





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OPERATION CHARACTERISTICS

Ef=6.3 VOLTS
PLATE VOLTS=250
GRID-№2 VOLTS=250
GRID-№1 VOLTS=-7.3
AF GRID-№1 VOLTS (RMS)=4.4

POWER OUTPUT
DISTORTION
POWER OUTPUT—WATTS
TOTAL HARMONIC DISTORTION—PER CENT
0 1 2 3 4 5 6
0 5 10 15 20
2000 4000 6000 8000 10000
EFFECTIVE LOAD RESISTANCE—OHMS

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92CM-9902